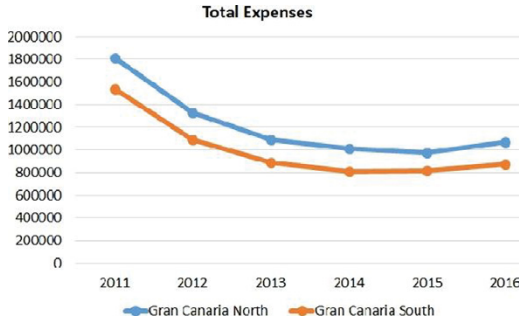
63.535 and 52.453 people, respectively. In the Gran Canaria South area there is no formal FLS.
An estimate of the number of cases of fracture attended in FLS and that was still under treatment in septiembre 2016 was calculated.
Results: The total expenditure on prescriptions for osteoporosis in 2016 (January to September) in the North area was 1,226,702 €, while in the South area it was 1,069,606 € (a 14% higher in the North area). The expenditure in 2016 for group II (bisphosphonates and equivalents) was 799,840 € and 656,301 € respectively (22% higher in the North area). The evolution of the percentage of total expenditure in osteoporosis for the North area in relation to the total of Gran Canaria was the following: 53.6% in 2011; 54.2% in 2012; 54.4% in 2013; 54.3% in 2014; 53.4% in 2014 and 53.4% in 2016 (Figure). For group II drugs, the percentage of 55% for the North area did not change between 2011 and 2016.
The number of drug prescriptions for group I was 7,551 units in the North area and 7,732 in the South area. For group II, the figures were 3,917 units in the North area and 2,873 units in the South area. That is, the prescription of group I drugs in the January-September 2016 period was similar in both areas (2% higher in the South area), while for Group II it was 36% higher in the North area, being this difference stable between 2011 and 2016.
Between 2012 and 2016, 1,297 patients have been evaluated in the FLS, of which 75% have indication of bisphosphonate or equivalents. The average adherence to treatment at 12 and 24 months is 70% (1). The estimate is that approximately 681 patients (17%) of the 3,917 who receive a drug from group II in the North area in October 2016 derivates from the FLS.



Conclusions: The implantation of a FLS, despite supposing around 16% of the percentage of patients treated with bisphosphonates and equivalents in the health area Gran Canaria North derivates from the FLS has not led to an increase in pharmaceutical expenditure for osteoporosis. We believe that one of the reasons for the non-increase in spending is the rational use of drugs for osteoporosis.
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FRI0540 EVALUATION OF BONE QUALITY USING THE NEW TRABECULAR BONE SCORE (TBS) TOOL IN RHEUMATOID ARTHRITIS PATIENTS

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Background: Patients affected by Rheumatoid Arthritis (RA) show an increased risk of low bone mass, as a result of multi-systemic disorders including toxic drug, low vitamin D levels and physical inactivity. Trabecular Bone Score (TBS), is an index extracted from the dual-energy X-ray absorptiometry (DXA) images, that provides an indirect measurement (Score) of bone axial microarchitecture and allows to get information about bone quality (1,2).
Objectives: The aim of this investigation was to evaluate bone quality in RA patients (high risk population) receiving vitamin D supplementation from at least 3 month, using the TBS.
Methods: 108 female patients (mean age 61±8 years) affected by RA and 60 age- matched controls (CNT) (mean age 64±11 years) were enrolled. Bone Mineral Density (BMD, g/cm^2) of the lumbar spine (L1-L4) was analyzed using a DXA scan (GE,Lunar Prodigy). Lumbar spine TBS (TBS iNsight Medimaps) was derived for each spine DXA examination. All patients were evaluated for serum 25 hydroxyvitamin D (25(OH)D) concentrations.
Results: 78 RA patients (80%) presented a bone loss that was significantly lower when compared with control group ($p<0.001$). Likewise, lumbar spine TBS score was found significantly lower in RA patients compared with CNT ($p<0.001$). Finally, RA patients showed lower 25(OH)D concentrations (18.4±1.3 ng/ml) than CNT (26.2±0.9 ng/ml; $p<0.04$).
Conclusions: This study shows in RA patients a reduction of TBS values that seem placed side by side with reduced BMD values and 25(OH)D serum concentrations. Therefore, TBS could become a new and safe diagnostic tool for the quantification of the bone quality and related osteoporosis, in chronic systemic inflammatory rheumatic diseases, such as RA.
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Disclosure of Interest: None declared
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FRI0541 RELATIONSHIP BETWEEN CHRONIC PERIODONTITIS AND BONE MINERAL DENSITY IN A CASE-CONTROL STUDY OF PATIENTS WITH RHEUMATOID ARTHRITIS AND NON-INFLAMMATORY JOINT DISEASE

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Background: The association between two chronic inflammatory diseases such as rheumatoid arthritis (RA) and periodontitis (PD) may be explained by causal and noncausal pathways. A possible mechanism in the increased PD observed in patients with RA is systemic bone loss due to the inflammatory process itself among others factors. Several studies have reported associations between OP and PD, not confirmed in other studies.
Objectives: 1.To determine whether OP is associated with PD and with PD severity.
Methods: Observational cross-sectional, case-control study of RA patients ≥18 y.o. meeting ACR/EULAR 2010 criteria for RA in a Rheumatology Dept. and a control group with a non-inflammatory joint disease, with at least 4 teeth, without dental prophylaxis or antibiotic intake 6 months before. Socio-demographic and anthropometric variables with smoking status,Graffar scale, stress level, annual dental prophylaxis, and co-morbidities such as diabetes mellitus (DM), dyslipidemia (DS), ischemic cardiovascular disease (ICD) and history of low-impact fractures. Dual-energy x-ray absorptiometry (DXA) (g/cm^2) was performed with a DXA LUNAR (GE HealthCare) in lumbar spine and femoral neck. Periodontal Variables included plaque index, bleeding on probing, probing pocket depth, recession, clinical attachment level (CAL). Full mouth CAL and periapical x-rays were taken. CAL was classified according to the European Workshop in 2005 (Tonetti), into level 0 (absence), TL1 (mild), TL2 (severe). Statistical Analysis: t-student test, Kruskal Wallis, Chi-square with Stata 13.1.
Results: We studied 344 patients: 187 RA (147 F/40 M) and 157control (101F/56M). Both groups were comparable in age 54.9 (17.9) y.o., body mass index 27.8 (4.6), stress level, DM and ICD. Differences in gender (>no. of males in controls), socioeconomic status (lower level in RA), >no. of current and former smokers RA (19.2%vs 8.9%/24.6%vs 11.5%),OP (23.4% RA vs 7.8%), DS (hipertrygliceridemia 11.2% RA vs 4.4%). PD was found in 97.3% of RA patients vs 66.2% of controls. DEXA was performed in 303 patients: 163 RA/140 controls that showed OP in 38 (23.3%) and 13 (9.3%) of RA and control groups as well as osteopenia in 47 (32.4%) and 16 (11.3%) respectively ($p<0.001$); 81% of these patients presented PD. There was association between PD and OP/osteopenia, so patients with PD had greater abnormal BMD 88% vs 76.3% with normal BMD; patients without PD showed greater normal BMD with statistically significant difference (23.7% vs 11.1%) (p=0.008).
Conclusions: 1. PD was observed in 81% of the patients evaluated with BMD; of these, 89% had OP/ osteopenia, and among the patients without PD a significant normal BMD predominated. 2. PD was found in 97% of RA patients *versus* 66% of controls; similarly OP was present in 23.3% of RA patients *versus* 9.3% of controls, with the diference being significant. 3. There was no association between BMD and PD severity.
Disclosure of Interest: None declared
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FRI0542 PREVALENCE OF VERTEBRAL BODY DEFORMITIES RELATED TO OSTEOPOROSIS IN PATIENTS WITH NON-TRAUMATIC LUMBAR OR DORSAL ACUTE PAIN

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Background: Presence of vertebral body deformities is considered a relevant issue in order to chose a particular treatment in patients with osteoporosis. However, only remarcable deformities are properly identified and registred while those, less striking can just be unnoticed in radiological studies not related to osteporosis studies. One of the most usual radiographic study of the axial skeleton is the lumbar and dorsal acute pain. This group of patients is, indeed, suitable stablish proportions of any grade of vertebral body deformities according to the Genant scale.
Objectives: The goal of present study is to determine prevalence of vertebral body deformities in postmenopausial patients radiologically assessed due to lumbar or dorsal non traumatic related pain.
Methods: We performed a simple randomization of the registries of female patients with 65 years old or more who consulted due to dorsal or lumbar

non-traumatic acute pain, between 2014 and 2015. All included registries must had a radiological assessment. The gathering of registries concluded after reach 120% of the estimated sample size for a non finite theoretical population, a precision of 3% and a hypothetical estimated prevalence of 7% based on local previous studies of prevalence of vertebral osteoporotic fractures. Vertebral body measures were performed according to Genant scale recommendations from D7 to L5 as far as possible according to the field of study of the radiological chart plate.

Results: 275 randomized registries of dorsal and lumbar pain were included (total=550). Among patients with dorsal pain we identified 62 (22.5%), 30 (10.9%) and 18 (6.5%) vertebral deformities grade I, II and III respectively. Among patients with lumbar pain we identified 31 (11.2%), 49 (17.8%) and 33 (12%) vertebral deformities grade I, II and III respectively. Prevalence of any grade of dorsal vertebral deformity was 40.00% (CI 34.39 – 45.89) and lumbar was 41.09% (CI 95% 35.44 – 46.99). Lumbar vertebral body deformities grade I and II summed 70.7% while dorsal grade I and II summed 83.6%. From the 93 vertebral body deformities grade I, 6.4% were recognized in their clinical histories, 20.2% of the grade II deformities and 92.1% of the grade III deformities, ($P<0.001$).

Conclusions: Although our population sample is circumscribed to symptomatic patients, our results contribute with prevalence of vertebral body deformities in postmenopausal patients grade I and II and who were mostly unnoticed. Proper identification of vertebral body deformities in patients with osteoporosis is crucial to decide treatment strategies in patients with known osteoporosis. Due to that, prevalence studies of this kind are relevant and useful to avoid diagnostic mistakes.

Disclosure of Interest: None declared

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FRI0543 WHICH FACTORS CAN HELP PREDICT FRAGILITY FRACTURES IN PATIENTS DIAGNOSED WITH INFLAMMATORY BOWEL DISEASE? A CASE-CONTROL STUDY

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Background: Inflammatory Bowel Disease (IBD) is a known risk factor for developing low bone mineral density (BMD) osteoporosis, due to malabsorption and treatment with steroids. These patients are more susceptible to fragility fractures. Though the percentage of such fractures is low, they can be associated with impaired mortality and morbidity. The difficulty lies in early detection of patients at an increased risk of fractures. Currently the diagnosis of osteoporosis and predictions of fracture risk are calculated assessing patient BMD on dual energy X-ray absorptiometry (DEXA). However, previous studies suggest that despite a decreasing BMD being significantly associated with an increased risk of fracture, its measurement alone is fairly restricted in predicting them; other patient factors must also be brought into consideration (1).

Objectives: To identify specific factors which may assist in the prediction of fragility fractures in a cohort of patients diagnosed with IBD.

Methods: Patients referred to a DEXA scan in the North West of England were identified and those with a referral reason of IBD were studied. Factors measured at BMD scanning include patient age, height, weight, lumbar and femoral head bmd, BMI, smoking history, alcohol use, family history of fractures, steroid exposure, rheumatoid arthritis and secondary osteoporosis. Patients where assorted into cases and controls after adjusting for age and gender. They were then analysed using T tests for continuous variables and Chi squared tests for categorical variables. Univariate and multivariate logical regression models were then utilised to identify factors predicting fractures.

Results: 938 patients were identified of which 721 (76.9%) were female with an average age of 58 as compared to an average age of 53 in men. 274 patients (29%) had fractures of which 238 were females (87%), at an average age of 63 compared to 60 in men. Men were shown to have a greater risk of fractures. Results of the univariate analysis are shown below.

Predictor	All Pts	Pts with Fracture	Pts without Fracture	P-value	Odds ratio (95% CI)
Age at scan	56.8	62.5	54.5	0.00	1.03 (1.03–1.05)
Height	163.7	161.2	164.7	0.21	0.99 (0.96–1.01)
Weight	71.6	70.0	72.2	0.63	0.99 (0.99–1.08)
Alcohol	52	16	36	0.24	1.48 (0.77–2.82)
Smoking	373	109	264	0.69	1.06 (0.79–1.44)
Family History	169	53	116	0.34	1.19 (0.81–1.74)
RA	49	20	29	0.20	1.49 (0.81–2.75)
Secondary op	108	40	78	0.93	1.02 (0.66–1.56)
Left Femoral Neck BMD	0.87	0.82	0.89	0.00	0.11 (0.04–0.31)
Right Femoral Neck BMD	0.92	0.86	0.94	0.00	0.19 (0.62–0.58)
Lumbar Spine BMD	1.22	1.01	1.10	0.00	0.10 (0.44–0.24)
BMI	28.7	26.9	26.6	0.96	0.99 (0.97–1.03)
Steroid	617	134	483	0.00	0.49 (0.36–0.67)

In the multivariate analysis, statistically significant variables were BMI (OR 1.05, 95% CI 1.01–1.08) and steroids (OR 0.49, 95% CI 0.35–0.69) with steroids being protective against fractures.

Conclusions: In the univariate analysis several risk factors are shown to be associated with fractures. These include femoral neck BMD, steroid use, lumbar BMD and the patient age at the time of the scan. The multivariate analysis showed that the biggest predictor after adjusting for age and gender is steroids and BMI with steroids being protective.

References:

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Disclosure of Interest: None declared

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FRI0544 CLINICAL AND DEMOGRAPHIC PROFILE OF PATIENTS CONSULTING FOR FRAGILITY FRACTURES IN A HOSPITAL IN COLOMBIA DURING THE YEARS 2014-2016: IMAGE OF THE COLOMBIAN HEALTH SYSTEM

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Background: Osteoporosis represents a major public health problem due to the seriousness of a patient's main complication: fracture. The lack of the Colombian health system for a structured public policy aiming diagnosis and early intervention generates a high volume of patients having fragility fractures.

Objectives: To describe the clinical and demographic characteristics of patients with fragility fractures seen in our hospital. To describe the risk factors for fragility fractures. To inquire about the patient's knowledge about osteoporosis. To follow each case establishing whether after presenting the complication (fracture), the patient would receive an ambulatory treatment covered by the health insurance.

Methods: Cross-sectional descriptive study

Results: 111 patients mean age of 74.4 years (± 11.3 years), 84 (75.6%) were women. All consulted for osteoporotic fracture. The most frequent type of fracture was hip (51.4%), followed by vertebra (23.4%), wrist (22.5%) and humerus (4.5%). 87.4% (n=97) had no personal history of fracture and only 1% had a history of frailty fracture in a first-degree relative. Risk factors: 7.2% (n=8) used glucocorticoids, 3.6% (n=4) antiepileptics and 3.6% (n=4) warfarin. 21.6% (n=24) were smokers. 77.5% (n=86) had never previously undergone a densitometry despite the fact that, because of their age, they had indicated that this study had previously been performed. Knowledge of osteoporosis by patients: 49.5% (n=55) did not know that osteoporosis was present, 58.6% (n=65) did not know that fracture was the main complication of this disease and 62.2% =69) does not relate to fractures with osteoporosis. All patients were educated and sensitized about osteoporosis and the importance of diagnosis and treatment and they were given an order to perform densitometry at discharge, despite the above 24.3% (n=27) densitometry was performed in the next year of the fracture. As for treatment, 33.3% (n=37) received calcium plus vitamin D. Only 9.9% (n=11) received treatment for osteoporosis (7 patients with bisphosphonate and 4 with denosumab), none received teriparatide osteoformer therapy.

Conclusions: The present study demonstrates the lack of understanding by the Colombian patients about osteoporosis. Despite of clear indications described international guidelines, we have found a the lack of densitometry measurements on our follow up patients. More serious, only 10% of the patients received treatment for osteoporosis and none of them used a osteoformer therapy. This proves the suboptimal follow-up made by the health insurance companies of our country. Urgent educational and public health policies are needed.

Disclosure of Interest: None declared

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FRI0545 COMPARISON OF MINERAL BONE DENSITY IN HIV-INFECTED PATIENTS FOLLOWED IN A SPANISH TERTIARY HOSPITAL WITH THAT OF NON HIV-INFECTED SPANISH POPULATION

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Background: Patients with human immunodeficiency virus (HIV) have a higher prevalence of low bone mineral density (BMD) and fractures than the general population, but there are no comparative studies in Spanish population.

Objectives: To assess the BMD in HIV-infected patients followed in a tertiary hospital of Madrid and compare it with the ESOSVAL cohort, which included 11035 patients and is representative of non-HIV population seen in Spanish tertiary centers.

Methods: We performed a cross-sectional study in which BMD values were determined in a prospective cohort that included HIV-infected patients seen our center during the period 2010–2015. Collected data included demography, comorbidities, treatment and densitometric variables.

Results: 93 patients from a total of a total of 924 with BMD data were eligible for the study after discarding those younger than 55 years, because that group is not included in the ESOSVAL cohort. Mean age of patients of our whole cohort was 43.8 years (range: 17–83), 11% were older than 55 years, of whom 83 were men (83%). Most of them were Caucasians, with a mean body mass index 24.1 (range: 14,7–40.6). Median time of HIV infection was 162,6 months (interquartile range [IQR]: 77.7- 283,3), median CD4+ cells nadir was 224 (IQR: 100–332) and median maximun viral load was 4,9 log (IQR: 4,3–5,4); concomitant hepatitis C